

REVISING/EDITING PART A

1. **(D)** The question asks for the most precise revision for the words “talked to some people who did the best in the contest.” Option D is the correct response because the revision precisely states both the reporter’s action (“interviewed”) and whom the reporter interviewed (“the top three contestants”). Option A is an incorrect response because the revision does not provide precise information about the number of people interviewed. Option B is an incorrect response because the revision uses the imprecise phrase “who did well.” Option C is an incorrect response because the revision does not provide precise information about the number of people interviewed.

2. **(G)** The question asks for the pair of revisions needed to correct the errors in the paragraph, which appear in sentence 2 and sentence 3. Option G is correct because it is the only choice that revises the errors in both sentence 2 and sentence 3. In sentence 2 (Option G and Option H), a comma needs to follow the word “company” to set off the phrase “who owned a cleaning product company.” A comma is necessary because the phrase is a nonrestrictive clause: the phrase provides extra information about Cleo and Noah McVicker’s line of work, but the phrase is not necessary in order to understand the meaning of the sentence. The second error is in sentence 3 (Option E and Option G), which incorrectly shifts the verb into the present tense. The clause “as natural gas becomes more common” should be “as natural gas became more common.” The comma after the word “homes” in sentence 1 (Option E and Option F) is necessary for separating the subordinate clause “When coal was used to heat homes” from the main clause. In sentence 4 (Option F and Option H), the word “remarketed” is in the past tense established in the rest of the paragraph and should not change to the past perfect tense “had remarketed.”

3. **(A)** The question asks for the identification of the sentence in the paragraph that has an error in its construction and should be revised. Option A (sentence 1) is the correct response because sentence 1 contains a structural error. The sentence begins with a list of modifying phrases: “Walking dogs, cleaning kennels, hand-feeding newborn kittens, and supporting the pet-adoption process.” As written, this list modifies the closest noun phrase, “the animal shelter,” which is illogical because the list describes tasks at the animal shelter, not the shelter itself. The list should follow the word “tasks” at the end of the sentence, so that it is closer to the word that it modifies. Option B, Option C,

and Option D are incorrect responses because sentence 2, sentence 3, and sentence 4 do not contain structural errors. For Option B, the phrase “especially those who aspire to care for and protect animals” in sentence 2 correctly modifies “young people.” For Option C, the structure of sentence 3 allows the words “In addition to hands-on training with animal care” to correctly modify “volunteers will learn.” For Option D, the phrase “which is the awareness and understanding of the feelings of others” in sentence 4 correctly modifies the word “empathy.”

REVISING/EDITING PART B

Moving through Mountains

4. **(G)** The question asks which sentence should be added to the end of the first paragraph in order to introduce the topic of the passage, which is the description, construction, and use of the Gotthard Base Tunnel. Option G correctly presents and describes the Gotthard Base Tunnel. Option E is incorrect because it offers overly detailed information about the funding used to build the Gotthard Base Tunnel, and it does not provide a description of the tunnel. Option F is incorrect because it gives details about the opening ceremony of the tunnel, and it does not provide a description of the tunnel. Option H is incorrect because it offers a result of completing the Gotthard Base Tunnel, rather than offering an introductory statement presenting and describing the tunnel.

5. **(B)** The question asks for a sentence that provides additional details about the tunnel-boring machines used to build the Gotthard Base Tunnel in order to support the description of the machines in sentence 7. Option B is correct because it offers specific details about how tunnel-boring machines, such as the ones used to create the Gotthard Base Tunnel, drill through rock. Option A is incorrect because it offers information about how tunnel-boring machines were an improvement over previous methods but does not include information about how the machines work. Option C is incorrect because it presents the idea that the tunnel could not be built until advances were made in tunnel-boring machine technology and does not describe how the machines function. Option D is incorrect because, though it explains that there are different types of cutter heads used for different geologies, the geology of the tunnel area is not discussed in sentence 7, nor in the rest of the paragraph.

6. **(H)** The question asks where sentence 11, which completes the detailed steps of how the tunnel was

built, should be moved within the second paragraph in order to improve the organization of the paragraph. Option H, placing the sentence between sentences 9 and 10, is correct because placing the sentence there helps the reader understand the full sequence of steps performed in constructing the tunnel before the cost of the project is introduced. Option E, placing the sentence at the beginning of the paragraph (before sentence 6), is incorrect because it would not make sense since the process of building the tunnel has not yet been introduced. Similarly, Option F is incorrect because placing the sentence after sentence 6 would not make sense given that adding concrete would have to happen after the rock was broken down and removed from the tunnel. Option G, placing the sentence between sentences 8 and 9, would also be incorrect because the use of concrete did not take place before the removal of “28 million tons of rock” (sentence 9).

7. (D) The question asks which sentence should be removed because it presents an idea that shifts away from the main idea of the third paragraph, which is about the transportation benefits of the Gotthard Base Tunnel. Option D (sentence 16) is the correct response because, even though the sentence provides additional information about the Channel Tunnel, it does not help the reader understand the benefits of the Gotthard Base Tunnel, so it should be removed. Option A (sentence 13) is incorrect because the idea of faster travel times is important to the development of the main idea of the paragraph. Option B (sentence 14) is incorrect because the sentence provides a specific example of decreased travel time between two cities when traveling through the Gotthard Base Tunnel, supporting the development of ideas in the paragraph. Option C (sentence 15) is incorrect because the sentence compares the Gotthard Base Tunnel to another tunnel that provides an important connection between places, and the sentence supports the idea that transportation innovations are beneficial.

8. (G) The question asks for a transition that bridges the ideas between sentences 17 and 18 and accurately presents the relationship. Option G is correct because it bridges the sentences by referring to the Gotthard Base Tunnel as a solution to the problems described in sentence 17 and logically introducing sentence 18. Option E is incorrect because the use of the word “although” and the mention of freight trains suggest that sentence 18 will be about other types of vehicles that use the Gotthard Base Tunnel, and the transition phrase does not logically precede the sentence. Option F is incorrect because the reference to the amount of time it took

to build the tunnel does not help lead into the idea presented in sentence 18. Option H is incorrect because it suggests that sentence 18 is related to the increasing number of trains using the Gotthard Base Tunnel, which is not accurate.

9. (B) The question asks for a concluding sentence that supports key ideas about the topic developed earlier in the passage. Option B is correct because it supports the points made in the introductory paragraph by affirming the idea that the Gotthard Base Tunnel is an example of a way people have improved life by overcoming obstacles. Option A is incorrect because the economies of surrounding areas were never mentioned in the passage. Option C is incorrect because, although the construction of the Gotthard Base Tunnel appears to have required many people to work together, the passage does not explicitly mention people or groups working together. Option D is incorrect because it focuses on the cost of the Gotthard Base Tunnel, which is referred to only in sentence 10 of the passage.

READING COMPREHENSION

An Early Warning

10. (H) The question asks for the statement that best illustrates the central idea of the passage. Paragraphs 2 through 5 focus on Marsh’s personal experiences and his ideas about nature, and paragraph 8 explains how his ideas are the basis for the conservation movement. These two aspects comprise the central idea of the passage and are best stated in Option H. Option E is incorrect because it focuses mainly on Marsh’s early life and does not address his influence. Option F is incorrect because, while it describes specific details about Marsh’s beliefs, it does not explain who he was or how he affected the conservation movement. Option G is incorrect because it emphasizes that Marsh’s ideas were radical and influential but does not provide any information about what Marsh’s beliefs were.

11. (D) The question asks for the specific reason Marsh believed people caused harm to the environment. Marsh credited the land abuse he observed in Vermont and Italy to people’s lack of understanding, or ignorance, of nature (paragraph 3) and “the popular belief that nature can heal any damage that people inflict upon it” (paragraph 5). This concept is stated in Option D. Option A is incorrect because, although people are currently working to improve the environment, the passage does not state that Marsh believed that people in his time expected

future generations to solve environmental problems. Option B is incorrect because, while the people of Marsh's time made advances in industry, Marsh did not indicate that he believed that people thought industrial progress outweighed efforts to protect the environment. Option C is incorrect because, while many people at the time participated in "environmental degradation" (paragraph 1), none of the evidence in the passage suggests that Marsh believed that people were unwilling to change their practices.

12. (F) The question asks for the reason the word "surprisingly" was used in paragraph 1. The beginning of paragraph 1 leads the reader to expect that Marsh was part of the modern environmental movement that began in the 1960s. Therefore, the fact that Marsh's influential book was published one hundred years earlier is surprising, and so Option F is correct. Option E is incorrect because, while Marsh's ideas have had a resurgence in popularity since the 1960s (paragraph 1), Marsh's observations about deforestation in Vermont (paragraph 2) and land mismanagement in Italy (paragraph 3) indicate that his ideas were just as applicable in his time as they are today. Option G is incorrect because, while Marsh could not have been aware that his ideas would lead to the start of a conservation movement, paragraph 1 indicates that Marsh introduced the principles of the environmentalist movement before it became popular. Option H is incorrect because, while it is possible that a greater awareness of human impact on the environment during Marsh's time could have prevented certain environmental issues today, this idea is conjecture and does not explain the author's reason for using the word "surprisingly."

13. (C) The question asks for evidence that supports Marsh's theories about nature, based on the passage. The passage states that ideas from Marsh's book are now considered basic knowledge in the field of environmental science (paragraph 6). This statement supports the idea that his theories about nature were accurate, making Option C correct. Option A is incorrect because, while Marsh made observations of the harm that people were causing to the environment (paragraphs 2 and 3), the details about his observations do not provide evidence that his theories were accurate. Option B is incorrect because, while Marsh's writing did inspire a conservation movement (paragraph 8), these details do not call attention to the accuracy of his ideas. Option D is incorrect because it refers to Marsh's personal opinions (paragraph 7), not his theories.

14. (H) The question asks for a specific detail that supports the author's statement in paragraph 5. In paragraph 5, the author states that "Marsh argued that people may use and enjoy, but not destroy, the riches of the earth." Marsh's approval of the Suez Canal shows that Marsh did not oppose certain human innovations, because the advantages—improved transportation and commerce—enriched human life and outweighed environmental damage (paragraph 7). Option H describes that idea. Option E is incorrect because it is not relevant to the statement in question. Option F is incorrect because, while it acknowledges Marsh's contributions to the conservation movement, it does not relate to his attitudes about certain alterations to the environment. Option G is incorrect because it relates to a time when Marsh observed environmental degradation in Italy.

15. (C) The question asks for the idea Marsh had that was the most influential on the movement in the 1960s. Marsh's main contribution to the modern environmental movement—the idea that Western society is causing irreversible harm to the environment—is given in paragraph 1, making Option C correct. Option A is incorrect because, while Marsh did believe that some human alterations to the environment are necessary (paragraph 7), the negative impact of human activity was his most influential idea. Option B is incorrect because, while Marsh believed that people lacked an understanding of nature (paragraph 3), this belief is a detail in support of his overall claim. Option D is incorrect because, while Marsh observed firsthand that environmental degradation had been occurring for many years (paragraph 3), that was not the focus of his most influential idea.

Champion of the Channel

16. (H) The question asks what the sentence reveals about Ederle's challenges leading up to her attempt to swim across the channel. Option H is correct because the sentence implies a lack of social support since many people believed that a woman, no matter how skilled a swimmer, did not have the strength to overcome the physical challenges that the dangerous channel waters presented (paragraph 1: "He claimed that 'even the most uncompromising champion of the rights and capacities of women must admit that in contests of physical skill, speed and endurance they must remain forever the weaker sex.'"). Option E is incorrect because the idea that Ederle was at a disadvantage because she was American rather than English, and thus less familiar with the channel, was not the basis for the newspaper editor's

EXPLANATIONS OF CORRECT ANSWERS *continued...*

prediction about the outcome of her swim. Option F is incorrect because the passage establishes that Ederle was a highly accomplished swimmer who had won major world competitions (paragraph 1: “. . . Gertrude Ederle, an American swimmer with eighteen world records and three Olympic medals . . .”). Option G is incorrect; the newspaper editor’s point was that it would be impossible for Ederle to complete the swim because she was a woman, not because people were uncomfortable with the idea since no woman had attempted it before.

17. (A) The question asks for the best summary of Ederle’s steps to prepare for her second attempt to swim across the English Channel. Ederle’s preparation is outlined in paragraph 4. Option A is correct because it acknowledges the idea that Ederle involved her sister in this process, and it details the efforts the two took to improve Ederle’s equipment, including waxing her goggles and designing a better swimsuit. Option B is incorrect because it focuses on Ederle’s actions in the moments before (covering her body with grease for insulation) and during her swim (finding her “sphere”), not her overall preparation methods. Option C is incorrect because it refers to a practice that was employed to help Ederle keep her strokes in rhythm during her swim. Option D is incorrect because it does not refer to the series of steps that Ederle took to prepare for her swim but rather to just one of the efforts made (improving equipment) without acknowledging her sister’s contributions.

18. (G) The question asks how the sentence from paragraph 3 fits into the overall structure of the passage. Option G is correct because it explains that Ederle’s awareness of another female swimmer preparing to make an attempt to swim the channel directly influenced Ederle’s decision to make her second attempt as quickly as possible. Ederle wanted to be the first woman to successfully swim across the channel. Option E is incorrect because the passage does not provide information about other female swimmers who were inspired by Ederle to swim across the channel. Option F is incorrect because, although Ederle did rethink her methods between her first and second attempts, the sentence does not show any sort of realization nor does it address her reasoning for rethinking her methods. Option H is incorrect because the sentence is not related to Ederle’s process for learning from her mistakes.

19. (C) The question asks for the best support for the idea that Ederle’s swim across the channel was successful because of her innovative approach to the

challenge. Option C is correct because the sentence from paragraph 5 explains that Ederle employed a newly developed type of stroke that allowed her to maintain her pace through the rough water. Option A is incorrect because the sentence from paragraph 1 shows that her performance was groundbreaking but not necessarily creative. Option B is incorrect because the layers of grease primarily served to help maintain Ederle’s body temperature in the water, and there is nothing in the passage to suggest that this was an innovative practice. Option D is incorrect because the sentence from paragraph 6 simply states that Ederle fought against the waves and completed her swim, and it does not describe how Ederle employed innovative techniques.

20. (G) The question asks about the effect of the word “insurmountable,” which means “incapable of being overcome,” in paragraph 4. Option G is correct because the suit Ederle wore during her first attempt to swim the channel “stretched out, filling with water and creating drag” (paragraph 4), which likely contributed to her failed attempt to swim across the channel. Option E is incorrect; Ederle did not complete her first swim because she became ill (paragraph 3: “Just six miles short of finishing, she became ill, and her coach had to haul her out of the water.”), not because the suit made it impossible for Ederle to complete her swim. Option F is incorrect because the author uses the word “insurmountable” to draw attention to the increased difficulty caused by the swimsuit, not to draw attention to the sisters’ creativity in solving the problem. Option H is incorrect because the passage does not address whether the original swimsuit was custom made, simply that the swimsuit created additional difficulties for Ederle in a situation that was already difficult.

21. (D) The question asks how a problem-and-solution structure in paragraph 5 contributes to the ideas presented in the passage. Option D is correct because the paragraph describes how the water’s temperature made Ederle uncomfortable and made it difficult for her to regulate her stroke. The paragraph continues with the explanation of how she overcame these issues by focusing her mind on the sea and tuning out the distractions in her surroundings (paragraph 5: “. . . the sea became her only companion and the shrieks of gulls and the humming of boat engines faded away.”). Option A is incorrect because the details in paragraph 5 do not provide a connection between the cold temperature of the water and the effectiveness of Ederle’s training. Option B is incorrect because the difficulties Ederle encountered were only partially relieved by her team, and her team’s efforts to ensure Ederle’s safety is not explained in the

passage. Option C is incorrect because the paragraph does not focus on the relationship between the problems Ederle encountered at the start of her swim and the problems she encountered during or near the end of her swim.

22. (H) The question asks for an explanation of how paragraph 7 contributes to the development of a central idea of the passage. Paragraph 7 is mainly about Ederle’s physical and emotional state as she pushed through a difficult portion of her swim and realized her goal was in sight. A central idea of the passage is that Ederle’s passion and determination allowed her to accomplish her goal of being the first woman to cross the English Channel. Option H is correct because it emphasizes her passion by referring to the overwhelming emotions Ederle felt as she progressed during her swim, despite the unfavorable conditions (paragraph 7: “For hours Ederle swam, dodging debris with an amused smile” and “Yet Ederle felt indescribably happy as she churned through the sea.”). Option E is incorrect because, although Ederle needed physical strength and mental fortitude to complete the swim, the paragraph contributes to a central idea because it highlights her emotion as she swam, not her physical strength or mental fortitude. Option F is incorrect because the paragraph focuses on Ederle’s emotional response to the challenging circumstances and not the idea that Ederle was at the “edge of her physical capabilities.” Option G is incorrect because Ederle’s feelings of happiness and amusement were caused by her anticipation and excitement as she approached achieving her goal, not by the severe weather.

23. (A) The question asks for an explanation of how Ederle’s successful swim across the channel affected American attitudes. Option A is correct because the passage indicates that there was a large increase in the number of American men and women who became physically active and who obtained swimming certificates shortly after Ederle’s swim (paragraph 9: “Over the next few years, more than 60,000 people credited her with motivating them to earn their American Red Cross swimming certificates.”). Option B is incorrect because, although there was an increase in the number of people learning to swim, the passage does not provide details about people who were inspired by Ederle to take on extreme challenges such as swimming across the channel. Option C is incorrect because, although Ederle did, in fact, surpass the men’s time for the swim by two hours, the passage does not provide information about how this achievement affected the American people’s perception of the capabilities of men and women.

Option D is incorrect because, although the passage does explain how Ederle’s determination and perseverance led to her eventual success, it does not demonstrate how this affected American attitudes toward overcoming failures.

24. (H) The question asks for the sentence from the passage that best conveys the author’s perspective about the impact of Ederle’s swim. Option H is correct because, throughout the passage, the author emphasizes that Ederle’s accomplishment was memorable and great, which is best stated in the sentence from paragraph 8. The sentence presented in Option E is incorrect because it focuses on Ederle’s personal attributes that allowed her to successfully complete her swim, not the author’s perspective about the impact of her achievement. The sentence presented in Option F is incorrect because the details in the sentence relate to Ederle’s state of mind as she came closer to achieving her goal and does not provide details about the author’s opinion of the impact of Ederle’s accomplishment. The sentence presented in Option G is incorrect because it simply presents Ederle’s emotional state as she nears her goal and does not provide information about the author’s perspective.

25. (A) The question asks for an explanation of how the table at the end of the passage contributes to the development of the topic of the passage. The table provides information about the earliest speed records set for crossing the channel, including Ederle’s, and information about present-day records, which are much faster. Option A is correct because the information in the table develops the topic of Ederle’s historic swim across the channel by indicating that people have continued to swim the channel and have found new ways to set speed records over time. Option B is incorrect because, even though the table presents the time for the current female record holder, there is no indication in the passage or in the table that the record holder was inspired by Ederle. Option C is incorrect because the passage does not provide information about other female swimmers’ successful swims across the channel. Option D is incorrect because, although the table allows for the comparison of times, the topic of the passage is related to Ederle’s record in comparison with other swimmers of her time, not present-day swimmers.

Excerpt from *A Tramp Abroad*

26. (F) The question asks about the phrase, which highlights the behavior of ants from different parts of the world, and about what the inclusion of the phrase shows about the author. Option F is correct because the

phrase is meant to communicate a caution that while the author believes most ants are foolish, his observations in the excerpt do not apply to all types of ants. Option E is incorrect because, in the excerpt, the author is comparing species of ants to one another and not to other living creatures. Option G is incorrect because the author never comments in the excerpt that challenging common or strongly held beliefs is, in general, difficult. Option H is incorrect because the author never expresses in the excerpt the idea that the conclusions drawn about the ants' behavior are flawed; the reference to Swiss and African ants is meant to show that those ants are an exception.

27. (A) The question asks how the central idea that “the average ant is a sham” (paragraph 1) is expressed in the excerpt. The excerpt focuses on the author’s humorous explanation of the ineffective struggles of two ants to accomplish a task, and the excerpt concludes with the statement that ants are not as smart as people think: “the ant has been able to fool so many nations” (paragraph 4). This point is stated in Option A. Option B is incorrect because the reference to ants in other locations is a detail mentioned only in paragraph 1 and is not directly related to the central idea mentioned in the question. Option C is incorrect because, while the narrator does observe the ants, the observations made are highly opinionated and not characterized as especially insightful or perceptive. Option D refers to the detail in paragraph 2 that states that the objects ants seek out are “generally something which can be of no sort of use to himself or anybody else” (paragraph 2), but this is not the main way the author conveys the premise that ants are a sham or false, and therefore, Option D is incorrect.

28. (H) The question asks for an explanation of how the words “grabs” “yanks,” and “tearing away” (paragraph 2) contribute to the meaning of the excerpt. Option H is correct because these words convey sudden movements as the ant becomes more upset in his efforts to transport the grasshopper leg. Option E is incorrect because the ant is never described in the excerpt as believing his work to be important. Option F is incorrect because the ant’s inability to make progress while transporting the grasshopper leg by himself demonstrates the ant’s inefficiency (paragraph 2: “At the end of half an hour he fetches up within six inches of the place he started from”). Option H is incorrect because the ant does not complete his tasks despite moving in a hurried and determined way (paragraph 2: “not calmly and wisely, but with a frantic haste which is wasteful of his strength”).

29. (C) The question asks for an explanation of how the details in the sentence convey the central idea, which is that the ant makes poor choices because of his lack of intelligence and his inability to understand even the most basic problem or obstacle. Option C is correct because the author’s description of the ant climbing up and over the weed rather than simply going around the weed supports the central idea. Option A is incorrect because, although the ant does waste much of his strength, the idea conveyed in the sentences is more related to the ant’s inability to solve a problem in the simplest way (paragraph 2: “which is as bright a thing to do as it would be for me to carry a sack of flour from Heidelberg to Paris by way of Strasburg steeple”). Option B is incorrect because the idea that the ant is surprised by the amount of effort needed to carry the object is not a central idea of the excerpt; nor does the excerpt suggest that the ant is surprised by this in the first place. Option D is incorrect because the ant has already acquired the object, and the details in the sentence do not convey an idea about the ant’s unnecessary effort.

30. (H) The question asks for the text from the passage that explains why the author finds the behavior of the ants fascinating. The author’s purpose in describing the excessively foolish actions of the ants is to prove his argument that in spite of what people have long believed, ants are completely lacking in intelligence. Option H is correct because the quoted text in Option H shows the author’s interest in the difference between public opinion and observed truth. Option E is incorrect because the quoted text in Option E provides details that reflect the author’s basic interest, but this observation does not extend to the level of fascination. Option F is incorrect because the author’s main message in the excerpt is that the ant, however industrious, is foolish. Option G is incorrect because the quoted text in Option G also provides details that would reflect a basic interest and observation but that do not extend to fascination.

31. (B) The question asks how the sentence, which states that the ant ends up only six inches from his original starting point, contributes to the central idea of the excerpt. Option B is correct because it explains how the idea in the sentence supports the central idea that “the average ant is a sham” (paragraph 2) by emphasizing his lack of progress and wasted effort. Option A is incorrect because, while the author recognizes the pointlessness of the efforts, the ant never becomes aware that his efforts are purposeless. Option C is incorrect because the ant ending up only six inches from his starting point suggests pointless effort, not an industrious or productive attitude. Option D is incorrect because the emphasis of

the sentence is on the ant’s wasted effort, not the difficulty and time involved, which the ant never realizes or evaluates.

32. (G) The question asks for a sentence in the excerpt that supports the idea that the ant’s “leather-headedness” (paragraph 4), or the ant’s stubborn determination to engage in foolish and worthless actions, amounts to ignorance and idiocy. Option G is correct because, in the sentence in Option G, the ant realizes he is in the wrong place only after wasting effort and strength, which reveals his stupidity and lack of awareness. Option E is incorrect because the sentence in Option E poses the question that the ant should ask himself and does not demonstrate the ant’s ignorance and idiocy. Option F is incorrect because the sentence in Option F simply describes the ant’s action of lifting the grasshopper leg into a position to carry it. Option H is incorrect because, while the sentence in Option H describes the ant’s exhaustion, which is caused by his stubborn determination, the sentence does not provide a connection to the ant’s leather-headedness.

33. (B) The question asks for an explanation of how the sentence, which highlights the second ant’s interest in the grasshopper leg, fits into the structure of the excerpt. Option B is correct because the sentence shows a shift from paragraph 2, which analyzes the actions of the first ant alone, to paragraph 3, which comments on the conversation between the two ants and the ensuing efforts of the two ants together. Option A is incorrect because the idea that the ant seeks out worthless items, such as a grasshopper leg, is established in paragraph 2 (“it is generally something which can be of no sort of use to himself or anybody else”). Option C is incorrect because paragraph 3 is a continuation of the author’s tale and not an expansion of the focus of his commentary. Option D is incorrect because the author does not compare the purposefulness of the two ants.

34. (E) The question asks for an explanation of how the word choice in the sentence adds to the meaning of the excerpt. The image the author creates of two sweating ants abandoning the grasshopper leg to look for “an old nail,” which an ant would want because it is “valueless,” is comical, as suggested in Option E. Option F is incorrect because it is a misinterpretation of the excerpt, as the ants are not confused but are acting decisively (paragraph 3: “Then they go at it again, just as before”). Option G is incorrect because the ants find moving heavy objects to be an amusing way to spend their time and are not aware enough to feel frustrated (paragraph

3: “something else that is heavy enough to afford entertainment and at the same time valueless enough to make an ant want to own it”). Option H is incorrect because the ants are willingly giving up on their object (paragraph 3: “decide that dried grasshopper legs are a poor sort of property after all”).

35. (C) The question asks how the second ant, a friend, influences the first ant. Option C is correct because the friend’s complimentary remark about the grasshopper leg serves to encourage the first ant to continue his efforts to drag the useless object home (paragraph 2: “Evidently the friend remarks that a last year’s grasshopper leg is a very noble acquisition”). Option A is incorrect because the first ant does not know where his home is (paragraph 2: “He doesn’t know where home is. His home may be only three feet away; no matter, he can’t find it”). Option B is incorrect because, while the friend offers to help the first ant (paragraph 3: “Evidently the friend contracts to help him freight it home”), he does not inspire a new approach to resolving the situation. Option D is incorrect because, while the friend does make it difficult for the first ant to transport the grasshopper leg, the friend is not intentionally trying to prevent the first ant from reaching home (paragraph 3: “Then, with a judgment peculiarly antic [pun not intentional], they take hold of opposite ends of that grasshopper leg and begin to tug with all their might in opposite directions”).

Ruins of a Fabled City

36. (G) The question asks for the sentence that best summarizes the central idea of the passage. The idea that there was much speculation about Great Zimbabwe is explained at the end of paragraph 1 and in paragraph 2, and the details about how modern archaeologists determined its origins are explained in paragraph 5. Option G best represents the central idea that is developed and supported throughout the passage. Option E is incorrect because it does not fully express the central idea of the passage: it includes facts from only the beginning of the passage and does not take into account the discoveries revealed about Great Zimbabwe in paragraph 5. Option F is incorrect because it focuses mainly on the idea that archaeologists are still interested in the mysteries of Great Zimbabwe (paragraph 6) and does not fully explain the central idea. Option H is incorrect because the fact that early excavations of Great Zimbabwe caused the destruction of valuable evidence is a detail from paragraph 4, and the option does not fully convey the central idea of the passage.

37. (B) The question asks for an explanation of how Mauch’s conclusions influenced later investigations. Option B is the best option because Mauch’s conclusion that Great Zimbabwe “had been built by the Queen of Sheba” (paragraph 4) affected later investigations of the ruins by causing archaeologists to destroy evidence without examining it, as they assumed that Mauch’s conclusions were accurate (paragraph 4). Option A is incorrect because, while archaeologists were interested in the area, this was not the main effect of Mauch’s conclusions, as described in the passage. Option C is incorrect because people searched for Great Zimbabwe because they already believed the stories told by Arab traders and historians like de Barros (paragraph 2), not because of Mauch’s conclusions. Option D is incorrect because, although the city was considered impressive (paragraph 3), Mauch’s conclusions did not influence whether people believed an ancient culture could have built the city.

38. (E) The question asks for the statement that best summarizes the Portuguese explorers’ experience. Option E is correct; the Portuguese repeatedly searched for King Solomon’s gold, which they associated with East Africa, but they never found the city (paragraph 2). Option F is incorrect because, while they did hope to find a city, the explorers’ overall experience was focused on finding wealth. Option G is incorrect because the information in paragraph 2 does not support the idea that the explorers used details from de Barros’s story to find the city’s location. Option H is incorrect because the explorers heard stories about the possible wealthy city, but they did not study “history books in order to gather information about the city.”

39. (D) The question asks for the specific conclusion that was able to be drawn from the excavations at Great Zimbabwe. Option D is the correct answer because paragraph 5 states that carbon-14 dating proved Randall-MacIver and Caton-Thompson’s conclusion that Great Zimbabwe was built by ancestors of the Shona people during the fourteenth or fifteenth century. Option A is incorrect because the mystery behind “why the settlement was abandoned” has not been solved. Option B is incorrect because the disappearance of the city’s ivory and gold is a mystery that has not been solved. Option C is incorrect because the reason that Europeans did not discover Great Zimbabwe until the 1870s has not been explained.

40. (F) The question asks for the best supported evidence the passage provides about the Shona people. The

Shona people are discussed in paragraph 5, where it is explained that Great Zimbabwe was discovered to have been built by the ancient ancestors of the Shona people, making Option F correct. Option E is incorrect because the ancient Shona people lived in the African interior, not on the coast, and the passage does not give specific details about where the Shona people live presently. Option G is incorrect because the passage does not give a detailed history about the origins and locations of the Shona people in Africa. Option H is incorrect because, while early explorers were looking for King Solomon’s gold and evidence of the Queen of Sheba in Africa, the Shona people were not found to be linked to these people.

41. (D) The question asks for the impact of Randall-MacIver and Caton-Thompson’s discovery. David Randall-MacIver and Gertrude Caton-Thompson’s conclusions were significant because their excavation of the ruins revealed that Great Zimbabwe was most certainly built by the ancestors of modern-day Africans (paragraph 5), discrediting the long-standing idea that the structure was Middle Eastern in origin. This conclusion is stated in Option D. Option A is incorrect because paragraph 5 states that Randall-MacIver and Caton-Thompson determined that the city was likely built in the fourteenth or fifteenth century, which was later than earlier explorers had assumed. Option B is incorrect because the question of why the great city was abandoned was not part of Randall-MacIver and Caton-Thompson’s discovery. Option C is incorrect because, while paragraph 5 also indicates that the Shona society was strong and healthy, this idea was not the main focus of Randall-MacIver and Caton-Thompson’s discovery.

Cross-Purposes

42. (E) The question asks how the similarity in the construction of lines 1 and 8 contribute to the meaning of the poem. By beginning lines 1 and 8 with “What I am is,” each speaker establishes its defining feature, both of which are stated in Option E. Option F is incorrect because the focus of the lines is defining the speakers’ individuality, not how one speaker resolves a problem created by the other. Option G is incorrect because the structure is not stating in line 1 that it is limited because it was built to stand in place; on the contrary, the structure is stating that this sense of purpose and permanence is its strength. Option H is incorrect because, in these lines, each speaker is trying to establish its stability, which for the structure is based on strength and for the water is based on longevity.

EXPLANATIONS OF CORRECT ANSWERS *continued...*

43. (B) The question asks how the lines contribute to the development of a central idea in the poem. The lines “I am what every athlete / wants” (lines 2–3) and “I am the blood flowing in the runner's chest” (line 12) communicate that each speaker is an object of admiration and a powerful force, so Option B is correct. Option A is incorrect because nothing in the language of the lines communicates control. Option C is incorrect because the lines describe opposing characteristics: the structure's description conveys stillness—remaining “up in the air” (line 4)—while the water's description conveys movement—“flowing in the runner's chest” (line 12). Additionally, the idea that the speakers fail to recognize similarities is not part of a central idea. Option D is incorrect because there is no evidence in the poem that the two speakers understand that they are interrelated.

44. (E) The question asks how the line contributes to the development of ideas in the stanza. The line mentions swallows and ospreys, birds that use the structure's trusses as their home; this reference supports the claim that the structure is beneficial to nature, so Option E is correct. Option F is incorrect because the line doesn't hint at jealousy in the tone or language, but rather the line is promoting the structure's helpful characteristic. Option G is incorrect because, in the line, the structure is not making a comparison with the water. Option H is incorrect because, in the line, the structure is not implying that it is related to nature but rather that it is helpful to nature.

45. (C) The question asks for the impact that the phrases have on the meaning of the poem. The phrases “some tears dribbling” and “running down” (lines 18–19) imply weakness in form and being influenced by the landscape, making Option C correct. Option A is incorrect because, while the lines do describe the water in populated areas, they do not describe the water as a problem for the people living there. Option B is incorrect because the lines do more than bring attention to different types of water; the lines make a judgment about the strength and importance of the water. Option D is incorrect because a comparison is not made based on the volume of water streaming from the mountains and the volume of water in the seas.

46. (H) The question asks what the comparison in lines 33–35 shows about the structure of the poem. The speaker states, “We are steel thread to the human needle” (line 34), which illustrates that the structure (and others like it) is a tool used by humans to “bind . . . up” (line 35) or overcome “the rip” (line 33) that the water creates in the earth, making Option H correct. Option E is incorrect because the language in the lines is used only to imply the flaw that the water creates—“the rip you make” (line 33). Option F is incorrect because, while the water states that it enables “empires to rise” (lines 25), implying that it is needed for society to thrive, it never shares a purpose of bringing people together through its existence. Option G is incorrect because the language used for sewing (“We stitch across the rip you make” [line 33]) indicates the repair of a flaw and not the establishment of boundaries.)

47. (D) The question asks how the last stanza conveys a central idea of the poem. In lines 36–38, the speaker (the water) describes how its “vapors cling” to the structure, bringing out the structure's “softness” and “rust,” thus destroying the structure over time. Also, in line 42, the speaker says it is “patient” and “will wait for you,” suggesting that the speaker will be around after the structure is gone. These phrases in the last stanza indicate that Option D is correct. Option A is incorrect because the last stanza includes no indication that the structure and the water depend on each other. Option B is incorrect because the last stanza refers to the opposing speaker (the structure) and not to any other structure. Option C is incorrect because the last stanza addresses only the idea that the structure will grow weak and obsolete over time.

48. (E) The question asks how the implication in lines 41–42 is supported by other lines in the poem. The words “patient” and “wait” in line 42 suggest that the speaker (the water) has the ability to outlast the other speaker because the water doesn't weaken as it ages, making Option E (lines 8–9) the correct response. Option F is incorrect because the promise made in line 42 is not affected by whether the water was built by humans (lines 9–10). Option G is incorrect because, in line 14, the water's ability to wait longer than the structure is not enhanced by what flows through the water. Option H is incorrect because, in line 26, the water's knowledge does not make its ability to wait any stronger—rather, its seemingly unending lifespan does.

49. (D) The question asks how the poet develops the two points of view. The poet develops the two

speakers' points of view by personifying (giving human characteristics to something nonhuman, such as an object or animal) the structure and the water, allowing them to debate by criticizing each other and declaring their own importance. Thus, Option D is correct. Option A is incorrect because future civilizations do not play a significant role in the development of points of view. Option B is incorrect because, while the speakers do discuss their impact on the environment, there is no narrator speaking for them. Option C is incorrect because these details do not convey points of view.

50. (G) The question asks how the form of the poem contributes to its meaning. The alternating positions of the stanzas create the appearance of a conversation in which the speakers share their opposing points of view, making Option G correct. Option E is incorrect because the number of lines for each stanza does not emphasize the importance of the two speakers. Option F is incorrect because italics are used mainly to designate the voice of the second speaker (the water). Option H is incorrect because the lack of rhyme scheme or meter is intended to create a conversational tone, rather than reflect the changes the water causes or experiences.

A Year without a Summer

51. (B) The question asks for the best summary sentence for the passage. The passage is mostly about the strange, cold summer of 1816 and speculation around its cause, which is best stated in Option B. Option A is incorrect because it is a detail in paragraph 3 about one theory regarding the cause of the weather. Option C is incorrect because the passage is about more than agriculture in New England (paragraphs 1 and 2). Option D is incorrect because it is a detail in the passage mentioned only in paragraph 1.

52. (E) The question asks for the sentence that provides the best reason for the farmers replanting their crops. Paragraph 2 states that “farmers prepared to plow and plant” because they “expected warm temperatures” and were “optimistic.” This suggests that the farmers kept replanting their crops because they expected the weather to return to normal, which is reflected in Option E. Option F is incorrect because the cold weather and the snow actually worsened growing conditions (paragraph 2). Option G is incorrect because, while “July and August brought little improvement” (paragraph 2), it is throughout the month of June that farmers replanted crops. Option H is incorrect because, while the farmers kept replanting their crops with the expectation of normal

weather to return, the passage does not state that was because the farmers thought the snow would provide moisture.

53. (C) The question asks for the outcome that is best implied by the situation the New Englanders faced in 1816. Option C is the correct answer because, with many crops “stunted or destroyed” (paragraph 2) in the summer of 1816, one would expect food shortages the following winter. Option A is incorrect because cold weather was familiar to the population in New England, just not for such an extended period of time. Option B is incorrect because there is no evidence in the passage that people experienced warmer temperatures. Option D is incorrect because, although some farmers did replant their crops, there is no evidence in the passage that they struggled to adjust to a different timeline for farming.

54. (F) The question asks for the purpose and importance of paragraph 3 to the passage. Paragraph 3 describes how nineteenth-century religious and other leaders tried to account for the cooler weather in 1816. Some leaders thought it was “the end of the world,” “sunspot activity,” or the proliferation of a new invention. How this information contributed to the passage is stated in Option F. Option E is incorrect because the causes described in paragraph 3 were not the most probable cause, as “the first plausible explanation”—Bessel’s—is described later in the passage. Option G is incorrect because more than one theory is presented in paragraph 3. Option H is incorrect because the ideas described are not included in paragraph 3.

55. (B) The question asks why the details about the eruption of Mount Tambora are included in the passage. The details in paragraph 4 about the eruption highlight the severity of the eruption and how it clouded the atmosphere and eventually encircled the world, making Option B the correct answer. Option A is incorrect because the passage does not support the idea that the effects are still present today. Option C is incorrect because the details may include information about what happens during an eruption, but the author is specifically describing the event at Mount Tambora as the inception of weather issues all over the world. Option D is incorrect because, while it is possible that people perceive natural events in various parts of the world differently, the specific details about the force and magnitude of the eruption do not emphasize this idea.

56. (H) The question asks for the implied meaning behind the phrase “the global nature of weather”

(paragraph 5). This phrase refers to how conditions in one part of the world can affect weather in another part of the world. Option H is correct because it clarifies “global” by explaining the relationship between weather and conditions all over the world. Option E is incorrect because the phrase in paragraph 5 is about the effects of weather conditions around the world, not about making weather predictions. Option F is incorrect because it discusses the lasting impact on specific geographical areas, while the phrase “the global nature of weather” refers to events that affect the entire world. Option G is incorrect because, while weather events (the unusually cold summer in New England in 1816) can be related to natural disasters (a volcano eruption), there is no support in the passage for the idea that natural disasters tend to occur at the same time.

57. (D) The question asks for the likely cause of the cold summer of 1816, based on the reason given in the passage. Researchers today believe that Bessel’s theory that “dust particles screened portions of Earth from the warming rays of the sun” is the most logical and probable (paragraph 5). His ideas are summarized in paragraph 4, and Option D restates his theory, making Option D the correct answer. Option A is incorrect because this was a possibility considered by some leaders, but there is no evidence in the passage that this theory was supported by thorough scientific research. Option B is incorrect because this theory was thought to be a possible cause by some people, but Bessel’s theory is the most probable. Option C explains damage that was caused by the Mount Pinatubo eruption in 1991 (paragraph 1), but that damage is not the cause of the cold summer of 1816.

58. (162) First, find the measure of angle PQR.
 The measure of angle PQR is equal to the
 measure of angle PSR.

$$m\angle PSR = 180 - 72 = 108.$$

So, the measure of angle PQR is also 108.

$$108 + 90 + x = 360$$

$$198 + x = 360$$

$$x = 162$$

59. (99) Let x be the number of oak trees when 264
 pine trees are planted. Set up a proportion
 and solve for x :

$$\frac{x}{264} = \frac{3}{8}$$

$$8x = 762$$

$$x = 99$$

60. (-4) $4w = 2w - 8$

$$2w = -8$$

$$w = -4$$

61. (45) Let x = number of students with only cats
 as pets.

Let y = number of students with only dogs
 as pets.

Calculate x and y using the given
 information: There are 20 students who
 have cats, and of those 20 students, 3 have
 both cats and dogs. Thus, $x = 20 - 3 = 17$.
 There are 23 students who have dogs, and
 of those 23 students, 3 have both cats and
 dogs. Thus $y = 23 - 3 = 20$.

To find the total number of students
 surveyed, add the number of students who
 only have cats (x), the number of students
 who only have dogs (y), the number of
 students who have both (3), and the
 number of students who have neither (5):
 $3 + 5 + x + y = 8 + 17 + 20 = 45$

62. (63) If x is the smaller consecutive integer, then
 $x + 1$ is the larger consecutive integer. Use
 their sum (-15) to find x :

$$x + (x + 1) = -15$$

$$2x + 1 = -15$$

$$2x = -16$$

$$x = -8$$

The two consecutive integers are -8 and
 -7 .

One is added to the smaller integer:

$-8 + 1 = -7$, and 2 is subtracted from the
 larger integer: $-7 - 2 = -9$.

Find the product: $-7 \times -9 = 63$.

63. (B) $2k = m + 3$ so $k = \frac{m+3}{2}$.

Substitute each value of m to find the values
 of k :

$$k = \frac{5+3}{2} = \frac{8}{2} = 4$$

$$k = \frac{7+3}{2} = \frac{10}{2} = 5$$

$$k = \frac{9+3}{2} = \frac{12}{2} = 6$$

The set k is $\{4, 5, 6\}$.

64. (E) $7 + 3n + 6 - 4n - 8 =$
 $(7 + 6 - 8) + (3n - 4n) =$
 $5 - n$

65. (A) The sum of Adrianna's course grades equals
 4 times the mean (average) of her grades:
 $90 \times 4 = 360$. Roberto has the same sum
 (360) as Adrianna. Find the mean of his
 course grades:

$$360 \div 5 = 72$$

66. (H) Set up some equations.

Jenny (J) has twice as many marbles as Keiko (K): $J = 2K$

Jenny gives Keiko 5 marbles, so now they each have: $J - 5$ and $K + 5$ marbles.

Jenny still has 10 more than Keiko:

$$J - 5 = (K + 5) + 10$$

To find how many marbles Jenny had to start with, solve $J = 2K$ for K and substitute that into the second equation:

In equation $J = 2K$, solve for K : $K = \frac{J}{2}$.

Substitute $\frac{J}{2}$ in for K .

$$J - 5 = (K + 5) + 10$$

$$J - 5 = \left(\frac{J}{2} + 5\right) + 10$$

$$J - 5 = \frac{J}{2} + 15$$

$$J = \frac{J}{2} + 20$$

$$\frac{J}{2} = 20$$

$$J = 40 \text{ marbles}$$

67. (A) Let x be the number of inches representing 1 foot. Set up a proportion and solve for x :

$$\frac{x}{1} = \frac{0.125}{125}$$

$$x = 0.001 \text{ in.}$$

68. (G) First, add the percentage of cars containing 3 people, 4 people, and 5 or more people:

$$15\% + 7\% + 3\% = 25\%$$

Thus, 25% of the cars contained **at least** 3 people, so use that to calculate the number of cars:

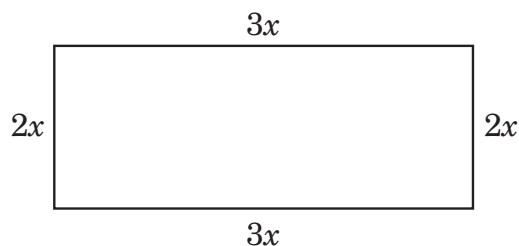
$$420 \times 0.25 = 105 \text{ cars.}$$

69. (B) Line segment \overline{RS} is the altitude, or height, of triangle QRP. The length of \overline{QP} is 8 cm. Use that information to find the area of triangle QRP:

$$A = \frac{1}{2}bh = \frac{1}{2}(8)(6) = 24 \text{ sq cm.}$$

There are 4 congruent triangles in the pyramid, so the surface area is $4 \times 24 = 96$ sq cm.

70. (F) Let $2x =$ the width and $3x =$ the length. Draw the rectangle to help visualize.



Since 2 times width + 2 times length = perimeter, we get

$$2(2x) + 2(3x) = 510$$

$$4x + 6x = 510$$

$$10x = 510$$

$$x = 51$$

$$2x = 102 \text{ cm and } 3x = 153 \text{ cm}$$

71. (D) Multiply each term by 2 to eliminate the fraction, and isolate x :

$$-4(2) < \left(\frac{x}{2}\right)(2) < 2(2)$$

$$-8 < x < 4$$

Therefore, x must be between -8 and 4 .

72. (F) Use proportions to make the conversions:

Lorgs to dollars:

$$\frac{140}{x} = \frac{7}{1}$$

$$7x = 140$$

$$x = \$20$$

Dalts to dollars:

$$\frac{16}{x} = \frac{0.5}{1}$$

$$0.5x = 16$$

$$x = \$32$$

Total dollars = 20 + 32 = \$52

73. (B) Let x be the total number of colored pencils in the box. Set up a proportion to find x :

$$\frac{2}{7} = \frac{6}{x}$$

$$2x = 42$$

$$x = 21$$

If there are 6 red pencils, then the number of pencils that are not red is $21 - 6 = 15$.

74. (H) Since both ratios have y in common, solve for x and z in terms of y in both equations.

Using $x:y = 1:4$, solve for x in terms of y .

$$\frac{x}{y} = \frac{1}{4}$$

$$x = \frac{1}{4}y$$

Using the ratio $y:z = 4:5$, solve for z in terms of y :

$$\frac{y}{z} = \frac{4}{5}$$

$$z = \frac{5}{4}y$$

The question states $x + y + z = 50$.

Substitute from the two equations above and solve for y .

$$\frac{1}{4}y + y + \frac{5}{4}y = 50$$

$$\frac{10}{4}y = 50$$

$$10y = 200$$

$$y = 20$$

75. (B) The shaded region is a right triangle. Each leg is 1 unit in length. So the area is

$$A = \frac{1}{2}bh = \frac{1}{2}(1)(1) = \frac{1}{2} \text{ or } 0.5 \text{ sq unit}$$

76. (F) Create a table with the information provided in the problem and use subtraction to fill in the rest of the table:

	Female	Male	TOTAL
Commutes to work	21%	39% (60 - 21)	60%
Does not commute to work	24% (45 - 21)	16% (40 - 24)	40% (100 - 60)
TOTAL	45%		100%

16% of the population is male and does not commute to work.

EXPLANATIONS OF CORRECT ANSWERS *continued...*

- 77. (A)** Let x be the price per pound for the meat. Set up an equation to show what Mrs. Cranston spent:

$$5(0.90) + 8x = 26.90$$

$$4.50 + 8x = 26.90$$

$$8x = 22.40$$

$$x = 2.80$$

The price per pound for the meat is \$2.80.

- 78. (E)** The probability that both cards are not blue is the same as the probability that both cards **are** red. There are 4 red cards out of the 10, so the probability of the first card being red is $\frac{4}{10}$. Now there are 9 cards left, and 3 of those are red, so the probability of the second card being red is $\frac{3}{9}$. Multiply the two probabilities to find the probability that both cards are red (not blue):

$$\frac{4}{10} \times \frac{3}{9} = \frac{12}{90} = \frac{2}{15}$$

- 79. (D)** 1 sind = 4 lorqs, so 1 sind > 1 lorq.
2 harps = 5 sinds, so 1 harp > 1 sind.
1 plunk = 3 harps, so 1 plunk > 1 harp, meaning that 1 plunk > 1 sind and 1 lorq.
2 plunks = 5 dalts, so 1 plunk > 1 dalt.
Therefore, the plunk is the most valuable.

- 80. (G)** For each row, multiply the number of students by the score. Then add those together and divide by the total number of students to find the mean (average) of the 10 students.

$$\frac{85(4)+75(4)+65(2)}{10} = \frac{340+300+130}{10}$$

$$= \frac{770}{10} = 77$$

- 81. (B)** According to the chart, 22% of people walk to work and 4% ride a bicycle. Subtract to find the percentage of how many more people walk than bicycle:

$$22\% - 4\% = 18\%$$

To find the exact number of people, multiply 18% (0.18) by the number of people working in Center City (15,000):

$$15,000 \times 0.18 = 2,700$$

- 82. (F)** To find the smallest factor of 91, list the factors: 1, 7, 13, and 91.

The smallest factor (other than 1) is 7.

Of the options listed (30, 35, 39, and 44), only 35 is a multiple of 7.

- 83. (D)** Let x be the remaining side of the actual banner. Set up a proportion:

$$\frac{x}{16} = \frac{36}{12}$$

$$x = 48 \text{ ft}$$

- 84. (F)** Let x be the number of second-, third-, and fourth-year students. Then the total number of students in the college is $663 + x$. Set up a proportion and solve for x :

$$\frac{15}{1} = \frac{663+x}{179}$$

$$663 + x = 179(15)$$

$$663 + x = 2,685$$

$$x = 2,022$$

- 85. (D)** $2\frac{1}{5} + 3\frac{3}{10} + 4\frac{2}{5} + 5\frac{1}{2}$

Convert all the fractions to a common denominator (10):

$$2\frac{2}{10} + 3\frac{3}{10} + 4\frac{4}{10} + 5\frac{5}{10}$$

$$= (2 + 3 + 4 + 5) + \left(\frac{2+3+4+5}{10}\right)$$

$$= 14 + 1\frac{4}{10} = 15\frac{2}{5}$$

- 86. (F)** Divide the rate by the number of seconds in an hour. (Since there are 60 minutes in an hour and 60 seconds in a minute, multiply $60 \times 60 = 3,600$ seconds in an hour):

$$\frac{55}{3,600} \text{ miles per second}$$

Multiply by the number of feet in a mile (5,280):

$$\frac{55 \cdot 5,280}{3,600} \text{ feet per second}$$

- 87. (D)** First, set up an equation to express Tien’s age (T) and Jordan’s age (J) today:

$$T = \frac{1}{4}J$$

Two years from now, Tien’s age will be $T + 2$, and Jordan’s age will be $J + 2$. Set up an equation about the relationship between Tien’s age and Jordan’s age in two years:

$$T + 2 = \frac{1}{3}(J + 2)$$

Solve the above equation for T :

$$T = \frac{1}{3}(J + 2) - 2$$

Now set the two equations equal to each other and solve for J :

$$\frac{1}{4}J = \frac{1}{3}(J + 2) - 2$$

$$\frac{1}{4}J = \frac{1}{3}J - \frac{4}{3}$$

$$-\frac{1}{12}J = -\frac{4}{3}$$

$$J = -\frac{4}{3}\left(-\frac{12}{1}\right)$$

$$J = 16$$

- 88. (E)** List the factors of 48:

1 and 48, 2 and 24, 3 and 16, 4 and 12, 6 and 8

There are no factors greater than 24 and less than 48.

- 89. (C)** The first integer is l , so the second is $l + 1$, the third is $l + 2$, then $l + 3$, and finally $l + 4$. Since g is the fifth and greatest of the integers, $g = l + 4$.

Substitute $l + 4$ for g and simplify:

$$\frac{l+g}{2} = \frac{l+l+4}{2} = \frac{2l+4}{2} = l + 2$$

- 90. (H)** Three years is 36 months (12×3). Set up an expression to find the total amount Johan paid:

$$1,000 + 300(36) = \$11,800$$

- 91. (B)** Create a list of the possible pairs. Let the cookies be named A, B, C, D, E, and F.

AB, AC, AD, AE, AF
BC, BD, BE, BF
CD, CE, CF
DE, DF
EF

There are a total of 15 possible pairs of cookies that Aiden can choose.

- 92. (G)** Set up proportions to figure out how many slides Deion and Kyra can create in 1 hour:

Deion

$$\frac{5}{20} = \frac{x}{60}$$

$$20x = 300$$

$$x = 15$$

Deion can create 15 slides in 1 hour.

Kyra

$$\frac{3}{10} = \frac{x}{60}$$

$$10x = 180$$

$$x = 18$$

Kyra can create 18 slides in 1 hour.

Add Deion and Kyra to figure out how many slides they can create together in 1 hour:

$$15 + 18 = 33.$$

EXPLANATIONS OF CORRECT ANSWERS *continued...*

93. (C) Since $LN = \frac{1}{8}$, point N is located at $4\frac{5}{16} + \frac{1}{8} = 4\frac{7}{16}$. So M must be between point L, $4\frac{5}{16}$, and point N, $4\frac{7}{16}$. Point L can also be written as 4.3125, and point N can be written as 4.4375. The only option given that lies between those two points is 4.35.

94. (G) The length of the stick must be the greatest common factor of 72 and 30. The factors of 30 are 1, 2, 3, 5, 6, 10, 15, and 30. Of those, only 1, 2, 3, and 6 are also factors of 72. The greatest of these is 6.

95. (B) Ryan has 130 pages left to read ($150 - 20$). He read 20 pages in 30 minutes, which means he read at a rate of 40 pages per 1 hour. To find out how much longer it will take him to finish the assignment, divide the total number of pages remaining (130) by the number of pages he is able to read per hour (40):

$$\frac{130}{40} = 3\frac{1}{4}$$

96. (G) It is easier to rewrite $\frac{M}{N}$ as $M \div N$ since they are both fractions.

$$M \div N = \frac{w}{x} \div \frac{y}{z} = \frac{w}{x} \cdot \frac{z}{y} = \frac{wz}{xy}$$

97. (B) The question asks for integers from 12 to 30 that are not divisible by 2 or 3.

The set of consecutive integers is {12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30}.

Since all even numbers are divisible by 2, eliminate all even numbers, leaving the odd numbers in the set: {13, 15, 17, 19, 21, 23, 25, 27, 29}.

Eliminate those integers that are multiples of 3 (15, 21, and 27). The remaining integers are: {13, 17, 19, 23, 25, 29}. Therefore, there are 6 numbers in the set that are multiples of **neither** 2 nor 3.

98. (G) Take each city's number of schools and multiply by the number of students. It is not necessary to calculate all 5 of these. Cities M and N have the same number of students, so just calculate the number of students in City M because it has more schools than City N. The same goes for Q and R — only Q needs to be calculated because it has more schools than R.

$$M = 8 \times 500 = 4,000$$

$$P = 9 \times 400 = 3,600$$

$$Q = 6 \times 700 = 4,200$$

City Q has the greatest number of students.

99. (C) The total number of candies in the box is $5 + 3 + 2 = 10$. The number of candies that are not banana is $5 + 2 = 7$.

The probability of the first candy not being banana is $\frac{7}{10}$. Now, out of 9 candies, there are 6 candies left that are not banana.

The probability of the second candy not being banana is $\frac{6}{9}$. Multiply these two probabilities to get the solution:

$$\frac{7}{10} \times \frac{6}{9} = \frac{42}{90} = \frac{7}{15}$$

100. (H) Solve the equation for z :

$$\frac{w}{x} = \frac{y}{z}$$

$$wz = xy$$

$$z = \frac{xy}{w}$$

101. (C) Convert the ratios into fractions of WZ. Use the sum of the ratios for the denominator.

$$WX:XY:YZ = 4:2:3$$

$$WX = \frac{4}{4+2+3} = \frac{4}{9}$$

$$XY = \frac{2}{4+2+3} = \frac{2}{9}$$

The part of WZ that is WY is the sum of those fractions:

$$WY = \frac{4}{9} + \frac{2}{9} = \frac{6}{9} = \frac{2}{3}$$

Find the length of WZ:

$$WZ = 8 - (-10) = 18$$

The value of WY is $\frac{2}{3}(18) = 12$.

102. (G) Find 1% of 0.02: $0.02 \times \frac{1}{100} = 0.0002$

The greatest allowable thickness would be $0.02 + 0.0002 = 0.0202$ inch.

103. (D) First, calculate the highest score for each section by adding the lowest score to the range:

$$\text{Section I: } 65 + 28 = 93$$

$$\text{Section II: } 62 + 25 = 87$$

$$\text{Section III: } 67 + 22 = 89$$

The overall highest score is 93, and the overall lowest score is 62. Thus the overall range is $93 - 62 = 31$.

104. (F) Since $3n$ is even, then $3n + 1$ must be odd. Thus $3n + 3$ and $3n + 5$ are also odd. So there are a total of 3 numbers in this range that are odd.

105. (D) There are 6 digits in the repeating decimal (769230), so 7 would be the first, seventh, thirteenth digit and so on. To find the 391st digit, divide 391 by 6.

$$391 \div 6 = 65 \text{ R}1$$

Since the remainder is 1, that means the 391st digit is the same as the 1st digit, which is 7.

106. (E) One revolution is equal to the circumference of the tire:

$$C = 2\pi r = 2(1)\left(\frac{22}{7}\right) = \frac{44}{7} \text{ ft}$$

The car travels at 4,400 ft per minute. To calculate the number of revolutions, divide the speed by the circumference:

$$4,400 \div \frac{44}{7} = 4,400 \times \frac{7}{44} = 700 \text{ revolutions.}$$

107. (D) $100(2 + 0.1)^2 - 100 = 100(2.1^2) - 100$
 $= 100(4.41) - 100 = 441 - 100 = 341$

108. (G) The total number of handballs in the container is $4 + 5 + 8 + 9 + 11 = 37$.

Since there are 8 yellow handballs, the probability of selecting a yellow handball is $\frac{8}{37}$.

109. (A) Each chair costs Leon \$150 to make, and he sells the chair for \$275. His profit is found by subtracting the cost from the price:

$$\$275 - \$150 = \$125 \text{ per chair}$$

If Leon makes and sells 25 chairs in a week, his initial profit is $25 \times \$125 = \$3,125$. However, Leon has additional fixed expenses of \$1,250 per week, so this cost must also be subtracted to arrive at the profit. His final profit is $\$3,125 - \$1,250 = \$1,875$.

110. (H) Convert 4 ft 7 in. to inches.

Since 12 in. = 1 ft :

$$4(12) + 7 = 55 \text{ inches}$$

Multiply that by the conversion

$$254 \text{ cm} = 1 \text{ in.}$$

$$55 \times 2.54 = 139.70 \text{ cm}$$

111. (C) First, use $JK = 3\frac{1}{2}$ to find the location of J:

$$\frac{3}{8} - J = 3\frac{1}{2}$$

$$J = \frac{3}{8} - 3\frac{1}{2} = -3\frac{1}{8}$$

Now, use $JM = 9\frac{3}{4}$ to find the location of M:

$$M - \left(-3\frac{1}{8}\right) = 9\frac{3}{4}$$

$$M + 3\frac{1}{8} = 9\frac{3}{4}$$

$$M = 9\frac{3}{4} - 3\frac{1}{8} = 6\frac{5}{8}$$

Finally, use $LM = 1\frac{1}{8}$ to find the location of L:

$$6\frac{5}{8} - L = 1\frac{1}{8}$$

$$L = 6\frac{5}{8} - 1\frac{1}{8} = 5\frac{4}{8} = 5\frac{1}{2}$$

112. (G) $4x - 3y = 12$

$$4x = 3y + 12$$

$$x = \frac{3}{4}y + \frac{12}{4}$$

$$x = \frac{3}{4}y + 3$$

113. (A) First, determine the total number of servings of fruits and vegetables that the students ate by multiplying the number of servings by the number of students in each row of the table. Then add that column to get the total number of servings:

Number of Servings of Fruits and Vegetables	Number of Students	Number of Servings × Number of Students
0	5	0
1	7	7
2	3	6
3	4	12
4	0	0
5	1	5

Total: 30

Calculate the mean by dividing the total number of servings of fruits and vegetables by the total number of students:

$$\frac{30}{20} = 1\frac{1}{2}$$

114. (G) The ratio is 4:3:2:1, so the total parts is 10.

Since there are two parts resin, the fraction of resin is $\frac{2}{10} = \frac{1}{5}$.

So the amount of resin in 30 lb of paste (for 1 billboard) is $\frac{1}{5} \times 30 = 6$ lb. For 4 billboards, that would be $6 \times 4 = 24$ lb.

Answer Key for Sample Form A

1. D	14. H	27. A	40. F	53. C	66. H	79. D	92. G	105. D
2. G	15. C	28. H	41. D	54. F	67. A	80. G	93. C	106. E
3. A	16. H	29. C	42. E	55. B	68. G	81. B	94. G	107. D
4. G	17. A	30. H	43. B	56. H	69. B	82. F	95. B	108. G
5. B	18. G	31. B	44. E	57. D	70. F	83. D	96. G	109. A
6. H	19. C	32. G	45. C	58. 162	71. D	84. F	97. B	110. H
7. D	20. G	33. B	46. H	59. 99	72. F	85. D	98. G	111. C
8. G	21. D	34. E	47. D	60. -4	73. B	86. F	99. C	112. G
9. B	22. H	35. C	48. E	61. 45	74. H	87. D	100. H	113. A
10. H	23. A	36. G	49. D	62. 63	75. B	88. E	101. C	114. G
11. D	24. H	37. B	50. G	63. B	76. F	89. C	102. G	
12. F	25. A	38. E	51. B	64. E	77. A	90. H	103. D	
13. C	26. F	39. D	52. E	65. A	78. E	91. B	104. F	